

Relative Lethality of COVID-19 vaccines - who is measuring the casualties?

Quantifying Deaths caused by jabbing with Covid19 treatments, none of which prevent infection or transmission, is a moving target for statisticians. Let's look at Deaths per Jab and Deaths per Jabbee.



55 35 [share icons]

Japan Relative Lethality data for the Covid19 Jabs

This is an update to the earlier version of this article.

Useful data on Total Deaths and Myocarditis Deaths after jabs by brand from Japan.

1

Number of first and second dose by vaccine type until 14 February 2022 - Deaths - Deaths per million jabs and Myocarditis Deaths per million jabs with data to 11 August 2022.

AstraZeneca 116,848 - 1 - 8.6 - 0

Pfizer 169,349,680 - 1,698 - 9.6 - 0.22

Moderna 32,396,622 - 198 - 5.19 - 0.22

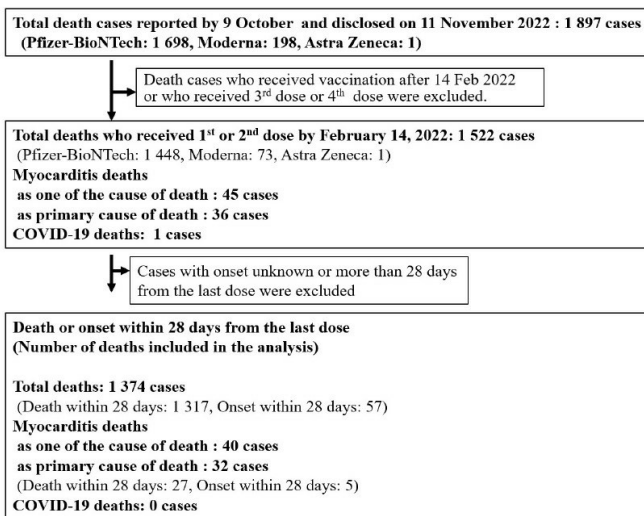


Fig 1| Included death cases for analysis based on the list disclosed on 11 November 2022.

Relative Lethality, with Pfizer killing more per million jabs of Moderna is very similar to figures published in Australia and UK.

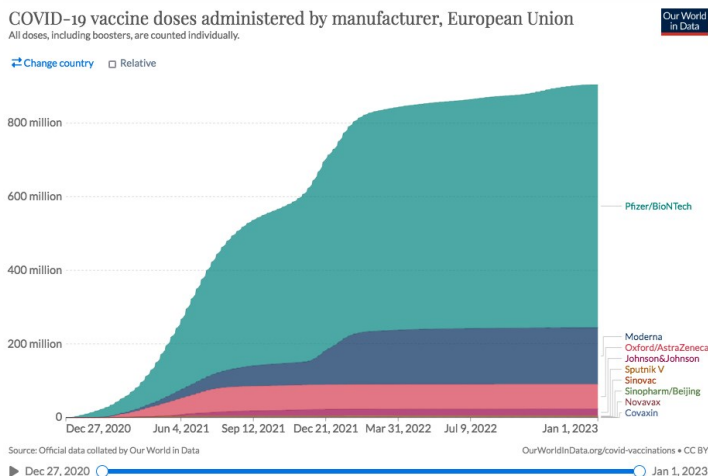
Pfizer now dominates the Market.

The focus will be on the two main mRNA jabs that are designed to evade the normal immune response by stealth, take over cells in all organs they reach and convert cells to factories for production of modified Spike Protein resembling that of the Coronavirus that first emerged sometime in 2019.

This is supposed to generate Neutralizing Antibodies, but instead makes our cells targets for destruction initiating a host of autoimmune diseases.

Start by looking at the market in Europe where we get quantitative updated data on dominance by Pfizer BioNTech.

2



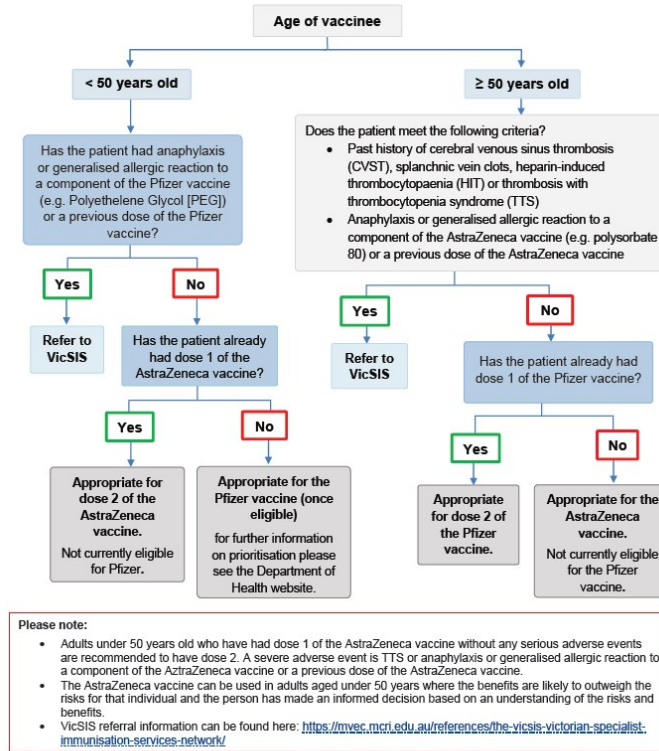
The reason AstraZeneca was flatlined after about 66 million doses were given in Europe was simply that it was clearly killing a huge number of jabbees. A similar fate hit Janssen (Johnson & Johnson). Numerous countries restricted the use of these Adenovirus jabs initially by restricting age range, followed by complete abandonment.

The public reason given for the high Death toll of AstraZeneca and Janssen was the discovery of VITT (Vaccine Initiated Thrombotic Thrombocytopenia) which had the unusual combination of collapsed platelets leading to Haemorrhage and

In May 2021, the Chief Health Officer of the State of Victoria, Australia issued a Health Warning and decision chart outlining the known risks of AstraZeneca and Pfizer jabs based on partial understanding of some of the ingredients.

COVID-19 Vaccine Brand Guidance for Clinicians

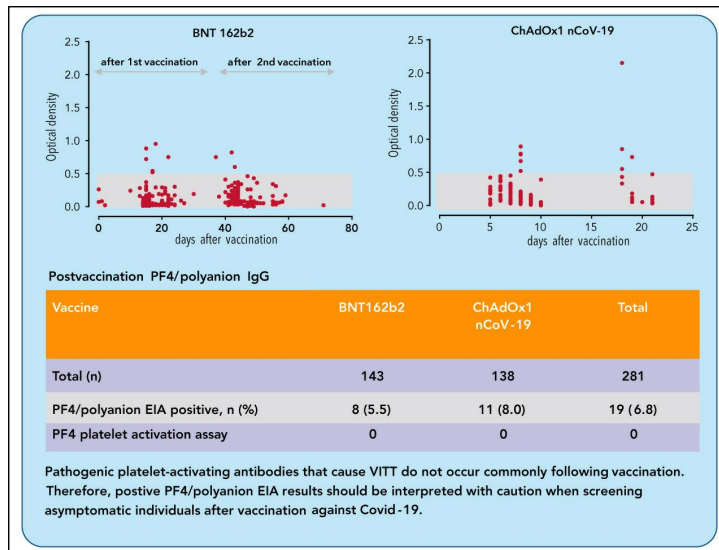
The purpose of this document is to assist clinicians and vaccine providers in determining patient vaccine eligibility.



But VITT is also caused by the Pfizer jab.

In July 2021, researchers in Germany, some of whom had been paid by Pfizer, downplayed the measured toxic PF4/polyanion IgG found in the Blood of those jabbed with Pfizer BNT162b2 and AstraZeneca (ChAdOx1 nCoV-19) weeks after jabbing. They set an arbitrary grey bar threshold for detection of "Pathogenic Platelet-Activating Antibodies that cause VITT".

3



Researchers in Australia have subsequently proven it to be the major factor in jab induced Clots.

4

I started studying Relative Lethality of the Covid19 jabs in August 2021.

5

At that time The UK Yellow Card reporting system provided data on the number of adverse reaction reports received after COVID-19 vaccination.

6

Comparing the reports to 28 July 2021, we see

AstraZeneca 225,871 reports 1024 Deaths and 21.1 Deaths per million doses

Pfizer 98,432 reports 478 Deaths and 13.9 Deaths per million doses

Moderna 11,783 reports 8 Deaths and 4.7 Deaths per million doses

In Australia, where intially the only vaccines in use were AstraZeneca and Pfizer, the TGA reported 447 Deaths as a

blanket figure to 12 August 2021 after COVID-19 vaccines, increasing at more than 20 per week.

TGA normally withheld drug Adverse Events reports at its DAEN page for 90 days, making it difficult for politicians and citizens to analyze real risks and danger signals. Subsequently they decided to suppress reports for 14 days.

In contrast to the UK, reporting of adverse events is mandatory in Australia. There was a hastily created Indemnity to the vaccinators, and a compensation scheme for the Dead or Injured designed to shield the manufacturers from litigation.

The number of adverse events and deaths is underestimated, not least because doctors attending are actively discouraged from reporting to DAEN.

By June 2022 the Death toll had increased predictably.

Looking at Deaths per million jabs we saw:

AstraZeneca UK 25.5 Australia 33.6

Pfizer UK 9.5 Australia 8.8

Moderna UK 4.7 Australia 5.2

The first Death after the NovaVax jab in Australia was reported to the TGA DAEN on 25 May 2022. There have been 2 more since then.

In August 2022 job Deaths in France reported to the US VAERS database were collected by my friend, known as Openvaet who has a Substack account and a main website.

[7](#)

Pfizer Deaths per million jabs 14.18

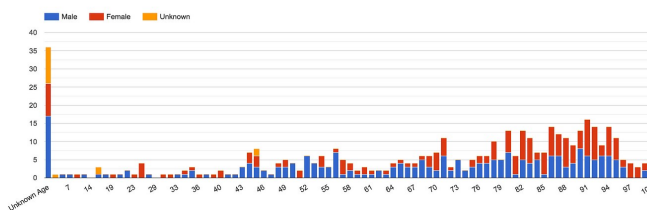
Moderna Deaths per million jabs 8.28

Based on Pfizer 116,404,297 jabs, Moderna 23,911,341 jabs given in France to 28 August 2022.

Many of the reports have no age for the victim, others only have the age in the body of the text. But the Relative Lethality is similar to other countries.

We did a deep dive into Australia reporting Deaths after Pfizer jabs to the US VAERS Adverse Events reporting system. We extracted Ages not visible on the TGA DAEN website and found a number of Children, including a boy aged 5. Total Dead 442 to September 2022.

Australia - Deaths by sexes & ages - COVID-19 PFIZER



As you can see, this is in no way a normal distribution of Death Age.

TGA DAEN increasingly fails to report the Age of the jabbed Dead, so that a number of Senators in Australia have resorted to Senates Estimates Hearings and Freedom Of Information demands to try to extract hidden data.

Ingredients in mRNA jabs

I found a very convenient chart showing what is actually in the Lipid Nanoparticles (LNPs) used to deliver GMO mRNA designed to trick your cells into mass producing toxic Spike Protein.

[8](#)

This shows the differences between Pfizer (BNT162b2) and Moderna (mRNA-1273) Jabs, the systematic names, code names and Chemical Abstracts Service Registry Numbers of ingredients which are helpful to aid toxicology studies and also find various manufacturers. Tromethamine, which is also known by a host of other trade names and used in both mRNA jabs, has CAS Registry Number 77-86-1.

Lipid Name	Role	Abbreviation or Lab Code	CAS Registry Number
BNT162b2 vaccine (Pfizer/BioNTech)			
(4-hydroxybutyl)azaneethyl bis(hexane-6,1-dyl)bis(2-hexyldecanoate)	ionizable cationic lipid	ALC-0315	2036072-55-4
(2-hexyldecanoate), 2-[(polyethylene glycol)-2000]N,N-ditetradecylacetamide	PEG-lipid	ALC-0159	1849616-42-7
1,2-distearoyl-sn-glycero-3-phosphocholine	helper lipid	DSPC	816-94-4
cholesterol	helper lipid	Chol	57-88-5
mRNA-1273 vaccine (Moderna)			
heptadecan-9-yl 8-((2-hydroxyethyl)(6-oxo-6-(undecyloxy)hexyl)amino)octanoate	ionizable cationic lipid	SM-102	2089251-47-6
1,2-dimyristoyl-rac-glycero-3-methoxy polyethylene glycol-2000	PEG-lipid	PEG2000-DMG	160743-62-4
1,2-distearoyl-sn-glycero-3-phosphocholine	helper lipid	DSPC	816-94-4
cholesterol	helper lipid	Chol	57-88-5

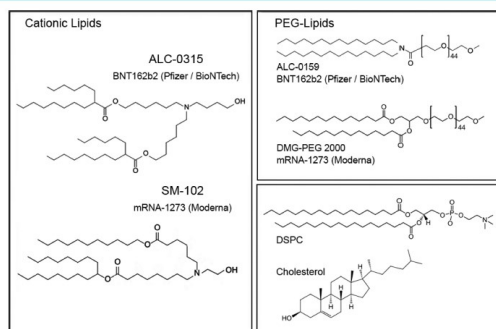
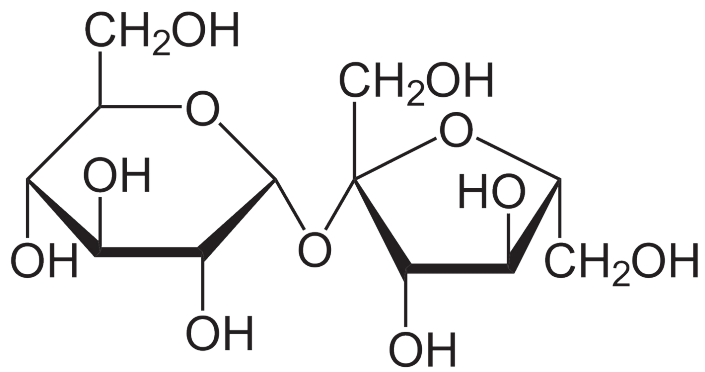


Figure 8. Structures of the lipid constituents of the LNPs of the COVID-19 mRNA vaccines^{164,165,195-197}

Sugar

The major organic component of Pfizer and Moderna jabs, not listed in the Table above, is Sugar also known as

Sucrose.



Sucrose can be considered as joined molecules of Glucose and Fructose.

There a number of posts on the web showing crystals growing in evaporated jab samples. Here is one example.



Compare with pure Sugar crystals.



Injecting people with Sugar can cause adverse reactions. Note this paper from 1950 refers to Invert Sugar, which contains Fructose and Glucose.

[9](#)

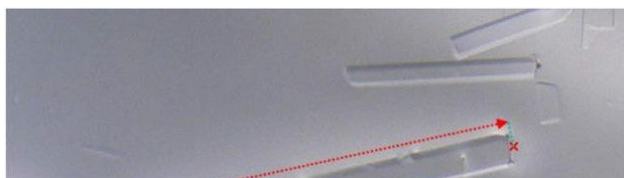
I have found that a number of Iron Sucrose injections now have a strong warning not to inject intramuscularly, in contrast to earlier product use via that delivery.

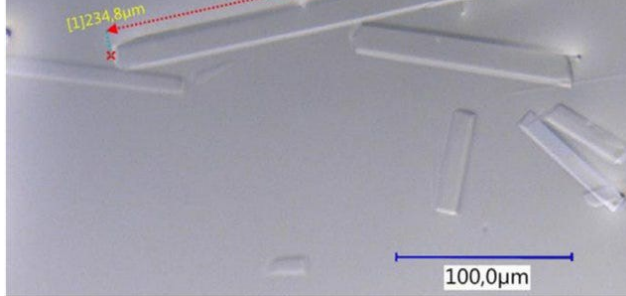
Has anyone found an explanation for this change?

It has been demonstrated that injected Sucrose crosses the Blood-Brain Barrier.

[10](#)

Some of the images and videos of jab residues under the microscope show elongated prisms dancing around due to Brownian motion. I went looking for micrographs of Fructose and found this image from centrifuged Honey.





The search for Toxicology of injected Fructose continues.

[11](#)

Salt

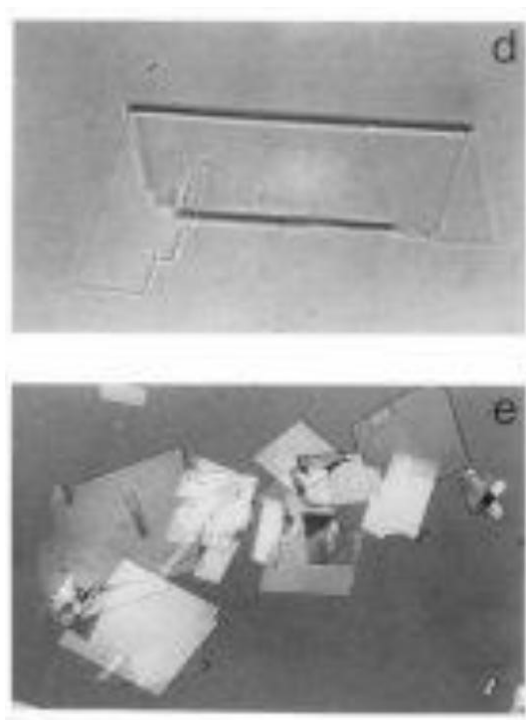
Both Moderna and Pfizer will show Sodium Chloride cubic crystals on evaporation because Saline (0.9% NaCl) is used to dilute the jabs.

Cholesterol

Cholesterol is common to both Pfizer and Moderna, being one of the 4 constituents of the Lipid NanoParticles that contain most of the mRNA in the jabs.

Elegant work by the Arbeitsgruppe Impfstoffe Aufklärung, Expertcouncil in Germany shows that the platelet crystals that grow from LNP mRNA jabs are Cholesterol.

[12](#)



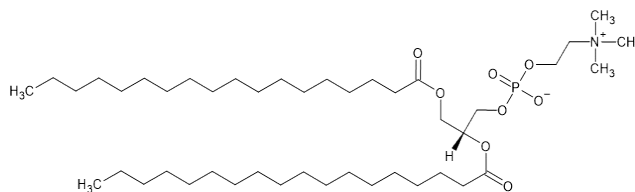
Reference images of Cholesterol platelets can also be found.

[13](#)

It is nice to see Dr Joseph Mercola and Dr Ryan Cole hosing down the crazy people who claimed Graphene or its derivatives were being secretly added to the jabs.

DSPC

Another chemical common to both Moderna and Pfizer jab LNPs is DSPC, (2*R*)-2,3-Bis(octadecanoyloxy)propyl 2-(trimethylazaniumyl)ethyl phosphate, also known as 1,2-distearoyl-*sn*-glycero-3-phosphocholine, or 18:0 PC.

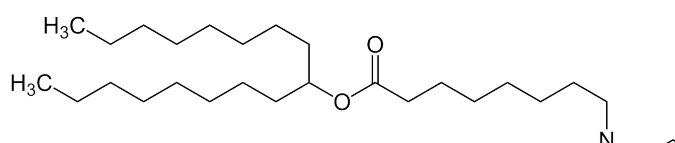


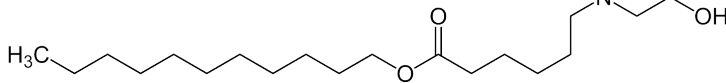
Are there published *in vivo* Toxicology studies using this additive?

[14](#)

SM-102

There seems to be little attention paid to the *in vivo* Toxic properties of 9-Heptadecanyl 8-[(2-hydroxyethyl)[6-oxo-6-(undecyloxy)hexyl]amino]octanoate also known as 1-Octylnonyl 8-[(2-hydroxyethyl)[6-oxo-6-(undecyloxy)hexyl]amino]octanoate, or SM-102, used in the Moderna jab.





It has been shown to interfere *in vitro* in the proper function of a number of cells, including Pituitary, Leydig and Microglial cells.

[15](#)

What are the anticipated Neurological and Reproductive effects of repeat dosing with booster shots where Lipid Nanoparticles containing SM-102 are known to be transported all around the body?

ALC-0159

ALC-0159, 2-[(polyethylene glycol)- 2000]-N,N-ditetradecylacetamide, is used in the Pfizer LNPs.

A Freedom Of Information document from TGA reveals that the Human exposure to ALC-0159 from the LNP-BNT162b2 jab is 53.4 µg.

[16](#)

No genotoxicity studies were conducted for the vaccine.

TGA states "However, the potential of the LNP or the vaccine formulation for complement activation or stimulation of cytokine release was not adequately assessed in nonclinical studies," and has redacted key sentences when discussing the Toxicity.

A general degradation mechanism of Tertiary Amine Lipids used in mRNA jabs is Oxidative Hydrolysis resulting in the formation of Aldehydes (more about this later).

Therefore it is likely that ALC-0159 will yield Tetradecanal, also known as Myristaldehyde, CH₃(CH₂)₁₂CHO, which the European Union lists as a Suspected Carcinogen in its ECHA Database.

[17](#)

ALC-0315

We know that Pfizer has higher Lethality than Moderna.

This could be due to some difference in the synthetic GMO mRNA segments in the jabs, but perhaps ALC-0315 will emerge as a key toxin.

(4-hydroxybutyl) azanediyil bis(hexane-6,1-diyl) bis(2-hexyldecanoate) is listed at the US government Chemical Toxicogenomic Database (CTD) but has zero information.

[18](#)

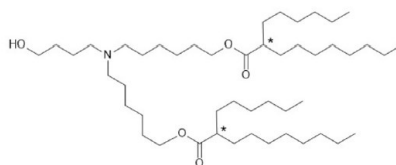
If someone knows a US Senator or a State Governor like Ron DeSantis, perhaps you could ask them to "Request Curation" of all documents held by the CTD on the toxicology of ALC-0315?

Pfizer uses ALC-0315 from two manufacturers, Avanti product number – 770315 and Croda product number – CM04017

The European Medicines Agency agency used little asterisks to show that there are actually 2 Chiral centres of ALC-0315 in its assessment report giving the all clear to Pfizer using this "novel" ingredient, but did not discuss that feature further. They also discussed impurity problems with ALC-0315. Has anyone seen any discussion of these Chiral isomers? In Human biology Chirality can be very important, as tragically found for Thalidomide.

[19](#)

The first new molecule I ever made consisted of Right- and Left-Handed versions.



Asterisks (*) indicate chiral centers.

A brief description of the chemical synthesis is provided. The suppliers are defined in the dossier. A similar manufacturing process is used for ALC-0315 in clinical and commercial finished product batches.

In order to confirm the purity profile and ensure comprehensive quality control and batch-to-batch consistency throughout the lifecycle of the finished product, the applicant should provide additional information about the synthetic process and control strategy for the excipient ALC-0315. **(S04)**

The proposed specification is considered acceptable based on the available data. However, additional information regarding specifications that should be provided **(S04)**.

Stability data from one supplier indicate that ALC-0315 is stable when stored at the recommended storage conditions. Additionally, the excipient is stable at room temperature suitable for use in further manufacturing steps. Stability data from one supplier is considered representative for lipid from another supplier.

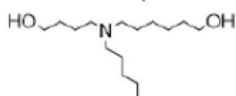
Lipid related impurities have been observed in some recently manufactured finished product batches, correlated with ALC-0315 lipid batches. The quality of ALC-0315 excipient is considered acceptable based on the available data on condition that specific impurities in the finished product will be further evaluated **(S02)**.

ALC-0315 is known to be toxic to mammalian Liver cells.

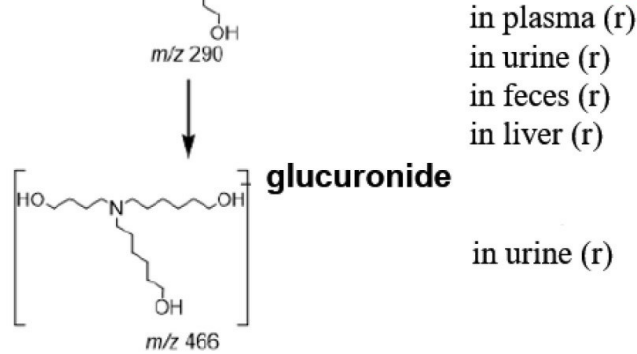
[20](#)

Material Safety Datasheets found so far also reveal no further details of any toxicology studies.

However Pfizer has revealed in FOI documents that ALC-0315 is metabolized to 2-hexyldecanoic acid and an apparently previously unreported Hydroxybutyl, Bis-Hydroxyhexyl Amine, molecular weight of 289.454, that they observed via Mass Spectrometry in its protonated form and as its Glucuronide salt excreted in rat urine.



in blood (mo, r)
in liver s9 (mk)



Pfizer reported terminal phase elimination half-lives ($t_{1/2}$) were similar in plasma and liver, 6-8 days for ALC-0315.

2-hexyldecanoic acid released from the Pfizer jab is known to cause Contact Dermatitis.

[21](#)

There have been many thousands of reports of Anaphylaxis immediately after injection of the Pfizer product, and many reports of survivors suffering Biphasic Anaphylaxis several days later.

Could the second life-threatening event be due to a build up of the 2 toxins?

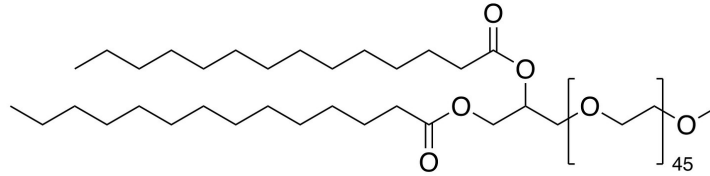
PEG2000-DMG

PEG2000-DMG also known as 1,2-dimyristoyl-rac-glycero-3-methoxypolyethylene glycol-2000, 1,2-dimyristoyl-sn-glycero-3-phosphoethanolamine-N-methoxy(polyethylene glycol)-2000, or DMGPEG2k, is used as a component of the Moderna jab LNPs.

It is listed at the US government Chemical Toxicogenomic Database (CTD) but has zero toxicology information.

[22](#)

We need someone to "Request Curation" of all documents held by the CTD on the toxicology of this compound.



Nickel

My friend Openvaet and I have made a very interesting discovery when deep diving VAERS data. A number of jabbees reported experiencing a Metallic, but more specifically, a Nickel Taste after the jab in the arm. Apparently many people have sucked their Nickel coins, jewelry or phone casings and these memories are activated as part of the systemic response.

Because Tromethamine, used in a number of vaccines including Moderna and Pfizer, is often contaminated up to 15 ppm with Nickel after the catalytic Hydrogenation of its precursor, it would be interesting to determine how little Nickel can cause Anaphylaxis, as has been previously reported with a mitral ring.

[23](#)

Nickel is a Superantigen that can cause Type I hypersensitivity.

A very interesting investigation of the interaction of Nickel with Immunoglobulins.

[24](#)

Nickel is implicated in Autoimmune/autoinflammatory Syndrome Induced by Adjuvants (ASIA)

A 23-year-old woman who developed serial episodes of high fever, extreme fatigue, transient thrombocytopenia, multiple cervical adenopathies, hepatosplenomegaly, anemia, neutropenia, severe proteinuria and urine sediment abnormalities, elevated serum ferritin levels, and transient low positive antinuclear antibodies 1 year after she had a nickel-titanium chin implant.

[25](#)

Re-exposure to the same allergen or hapten would lead to the activation of hapten-specific T-cells, which subsequently enter the bloodstream and produce visible signs of hypersensitivity at 48 to 72 hours after allergen or hapten exposure. Human toll-like receptor (TLR) 4 has been shown to play a crucial role in Nickel allergy.

[26](#)

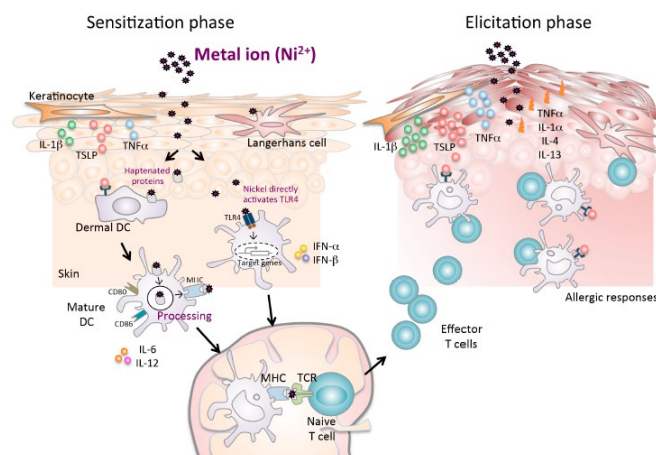
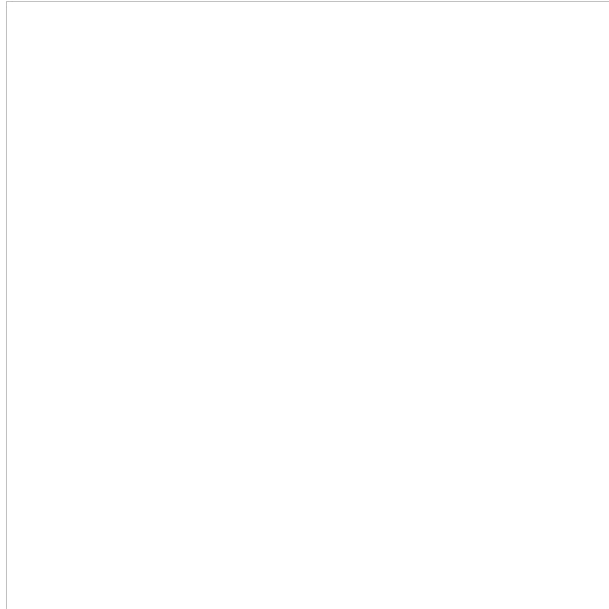




Figure 1. A complex mechanism of metal allergy. The sensitization phase begins after nickel exposure to the skin. Nickel penetration into the skin results in the production of proinflammatory cytokines (TNF- α and IL-1 β), TSLP, and chemokines, which induce activation and migration of haptenated protein-loaded epidermal and dermal DCs through afferent lymph to the draining lymph nodes. Particularly in humans, nickel directly activates the TLR4 pathway in DCs. In the draining lymph nodes, haptenated-peptide presentation results in the proliferation, activation and subsequent differentiation of hapten-specific T cells. Secretion of cytokines in the draining lymph nodes during the sensitization phase contributes to efficient hapten-specific T cell activation, proliferation, and differentiation. At the end of this phase, primed specific T cells migrate out of the lymph nodes to the skin. In the elicitation phase, the subsequent application of the same hapten leads to uptake by cells, which is presented to the recirculating hapten-specific T cells. The activated T cells produce inflammatory cytokines and chemokines at the site of exposure that promote an allergic reaction, leading to the development of characteristic skin lesions.

We found an interesting VAERS report of a lady reacting to her 2nd jab of Moderna in Britain, suffering Adverse Reactions: Arthralgia, Arthritis, Bursitis, Chills, Decreased appetite, Diarrhoea, Nausea, Neuralgia, Pyrexia, SARS-CoV-2 test (was negative), Sciatica.

She had previously reacted to the Nickel in alloy syringe needle.



Antimony

Antimony catalysts are used in synthesis of Pegylated esters, such as those used in the Liquid Nanoparticle encapsulated mRNA jabs.

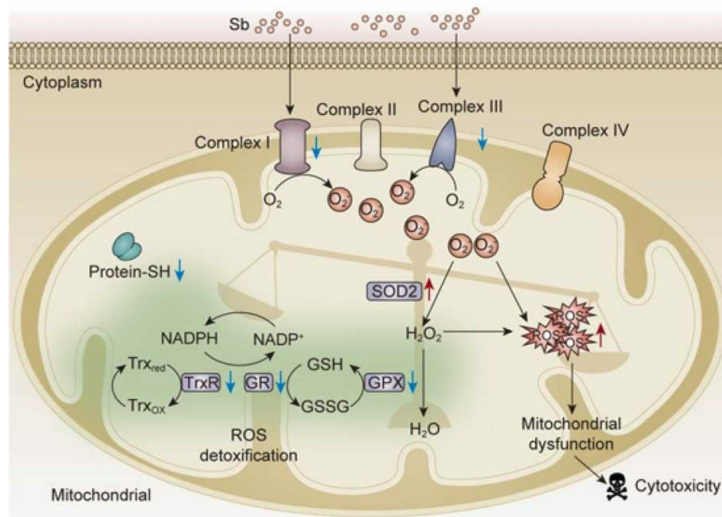
Recently researchers detected Antimony by ICPAES in Moderna product [11].

Pentavalent Antimony in the form of Sodium Stibogluconate produces a range of Adverse Reactions including: Nausea, vomiting, abdominal pain, anorexia, headache, hepatotoxicity, arthralgia, myalgia, cardiac toxicity with >20 mg/kg dose (prolonged QTc and T wave inversion), rash, thrombophlebitis, leukopenia, anemia, thrombocytopenia. Anaphylaxis and Death have been reported for those jabs.

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How does Antimony poison you? It goes for your Mitochondria (reminds me of Fluoride). Nice free paper from China with lots of references. The authors are going to do more research on Toxicity mechanisms, including Antimony attack on your Thiol based enzymes.

28



Other Inorganic Impurities

For all who are interested in claims that Pfizer jabs contained no Phosphate (before the transition to Tromethamine buffer) as analyzed in an electron microscope, it might be interesting to see that claims of Platinum in the jabs is due to errors in the automated peak picking of EDS spectra floating around the web.

Here is a nice table of common mistakes made. See that Phosphorus (PK alpha) and Platinum (M alpha) peaks are very close, so don't blame the dumb computer!

Claims of Bromine are much more likely to be Aluminium from the vial fixture. Beware anyone claiming Praseodymium when it will be Copper.

SCANNING Vol. 29, 4 (2007)

TABLE I. "Problem Elements" for automatic peak identification, 200 eV–5 keV

Energy Range (keV)	Problem Elements
<i>Below 1 keV</i>	
0.390–0.395 keV	N K (0.392); ScL α (0.395)
0.510–0.525 keV	O K (0.523); V L α (0.511)
0.670–0.710 keV	F K (0.677); MnL α (0.636); FeL α (0.705)
0.845–0.855 keV	NeK α (0.848); NiL α (0.851)
0.900–0.950 keV	CuL α (0.928); PrM α (0.929)
<i>1–2 keV</i>	
1.00–1.05 keV	NaK α (1.041); ZnL α (1.012); (PmM α (1.032)
1.20–1.30 keV	MgK α (1.253); AsL α (1.282); (TbM α (1.246)
1.45–1.55 keV	AlK α (1.487); BrL α (1.480); (YbM α (1.521)
1.69–1.80 keV	SiK α (1.740); RbL α (1.694); SrL α (1.806); TaM α (1.709); (W M α (1.774)
<i>2–3 keV</i>	
2.00–2.05 keV	PK α (2.013); ZrL α (2.042); (PtM α (2.048)
2.10–2.20 keV	NbL α (2.166); (AuM α (2.120); HgM α (2.191)
2.28–2.35 keV	S K α (2.307); MoL α (2.293); (PbM α (2.342)
2.40–2.45 keV	TcL α (2.424); (BiM α (2.419)
2.60–2.70 keV	ClK α (2.621); RhL α (2.696)
2.95–3.00 keV	ArK α (2.956); AgL α (2.983); (ThM α_1 (2.996)
<i>3–4 keV</i>	
3.10–3.20 keV	CdL α (3.132); U M α_1 (3.170)
3.25–3.35 keV	K K α (3.312); InL α (3.285); (U M β (3.336)
3.60–3.76 keV	CaK α (3.691); SbL α (3.605); TeL α (3.769)
<i>4–5 keV</i>	
4.05–4.15 keV	SeK α (4.090); XeL α (4.111)
4.45–4.55 keV	TiK α (4.510); BaL α (4.467)
4.84–4.95 keV	TiK β (4.931); V K α (4.952); CeL α (4.840); PrL α (5.034)

Nitrosamines

Pfizer and Moderna were compelled to provide Nitrosamine risk assessments for their Covid19 vaccines by the European Medicines Agency.

Various reports suggest the current detection limit for Nitrosamines in Tromethamine is 50 parts per billion (ppb).

Since secondary amines appear to be more likely to generate Nitrosamines, which are probable Human carcinogens at very low levels, can the detection level be pushed further?

Pfizer had Nitrosamine contamination with some of its other products in 2022.

[29](#)

Tromethamine

Please see my detailed report.

[Geoff Pain PhD](#)

Tromethamine is a Hazardous Substance in Jabs that Must be Banned

Tromethamine is an Endocrine Disruptor and causes Anaphylaxis. In Australia Therapeutic Goods Administration, acting on the advice of The Advisory Committee on Vaccines, and The Australian Technical Advisory Group on Immunisation, approved a modified Pfizer injection for young Children aged 5-11 years old, using Tromethamine, also known as Tris, Trom...

[Read more](#)

3 months ago · 23 likes · 5 comments · [GeoffPainPhD](#)

Known significant impurities in Tromethamine that can potentially cause health problems include:

2-amino-1,3-propanediol (APD)

2-amino-2-methyl-1,3-propanediol (AMPD)

2-(N-methylamino)-1,3-propanediol (MMAPD)

2-(N-methylamino)-2-hydroxymethyl-1,3-propanediol (MMTA)

2-(N,N-dimethylamino)-2-hydroxymethyl-1,3-propanediol (DMTA).

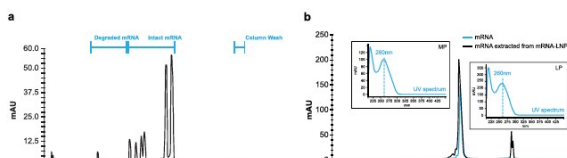
mRNA Degradation Products

The mRNA used in Moderna and Pfizer jabs is a delicate long molecule that decomposes over time due to temperature or chemical induced fragmentation.

Moderna has published a good deal of detail on their product degradation and identified damage to the mRNA caused by reaction with other ingredients.

[30](#)

Using High Performance Liquid Chromatography, Moderna found numerous short lengths of mRNA, which travel through the separation column faster than the large intact mRNA molecule. They were able to count the number of nucleotides in each fragment. They found that adducts form in increasing amounts with longer storage time and warmer storage temperature over 3 months.



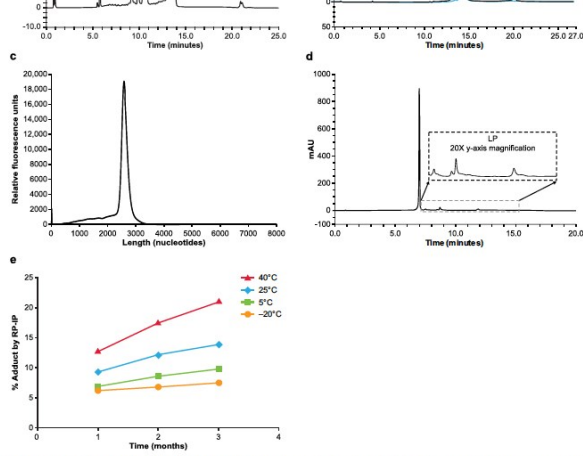
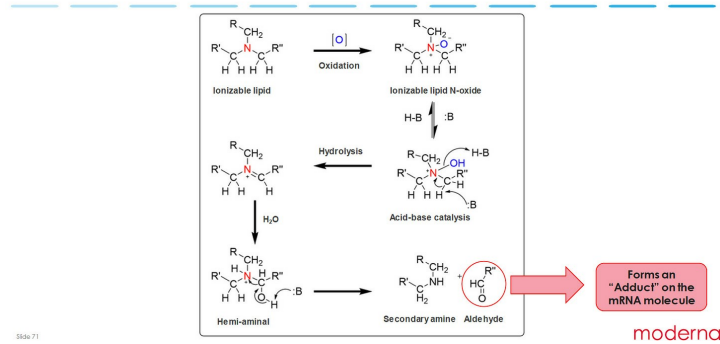


Fig 1 Identification of LP in formulated mRNA-LNP by RP-IP HPLC. **a** A reversed phase-ion pair high performance liquid chromatography (RP-IP HPLC) provides high resolution mRNA length-based separations to assess content and quality of mRNA products, as shown by the separation of 6 mRNAs of different lengths (659, 785, 914, 1106, 2498, and 2993 nucleotides) in a single lipid nanoparticle (LNP) formulation across retention times of 9.5–15 min. Peaks prior to 9.5 min are degradants and the peaks at 22 min form part of the column wash. **b** The RP-IP HPLC analysis of pure mRNA (blue) yields a single MP (retention time 15 min), with shorter degradation products and impurities eluting prior (retention time, 10–14.5 min), whereas mRNA extracted from an mRNA-LNP formulation (black) yields an additional late-eluting peak region (LP; retention time 19–21 min). The UV spectrum at each peak was obtained from an on-line 3D UV detector shows an identical profile with maximum absorbance of 260 nm (inset). **c** CE analysis of extracted mRNA shows a single peak, with no additional late-eluting species. **d** LP species in mRNA extracted from an mRNA-LNP formulation can be further resolved with adjusted gradient conditions and show a polydisperse fingerprint of species. **e** An mRNA-LNP formulation was stored for 3 months at 4 different temperatures (40 °C, red; 25 °C, blue; 5 °C, green; -20 °C, orange), and sampled at 1, 2, and 3 months for analysis by RP-IP HPLC; each data point is a single incubation condition run in a single RP-IP HPLC assay. Representative data are shown. AU, absorption units.

Moderna traced their degradation problem to oxidative hydrolysis of tertiary amines to yield Aldehydes that form adducts by reaction with the mRNA as shown in the following scheme.

Oxidation of a tertiary amine can result in an aldehyde

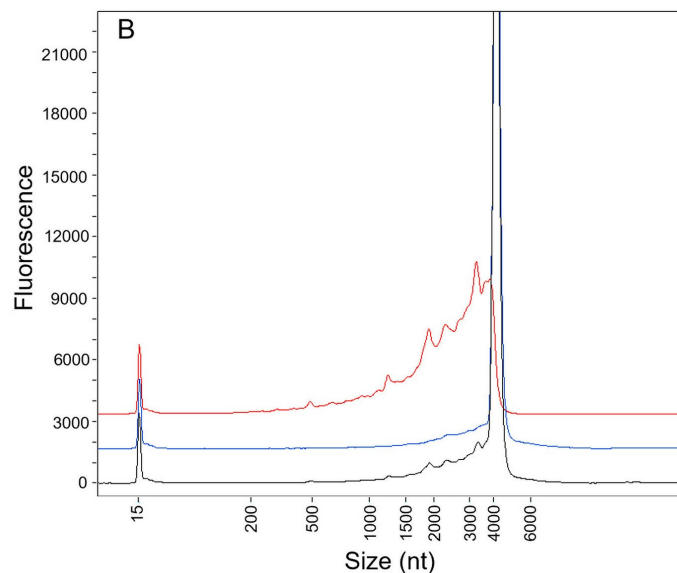
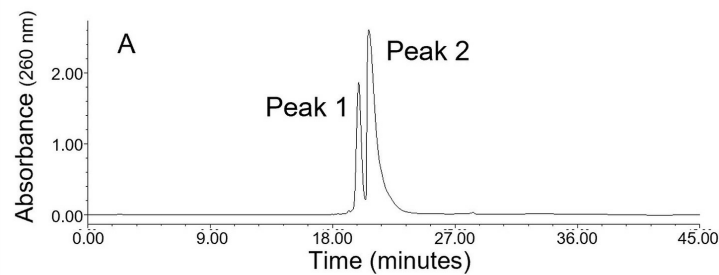


Pfizer has admitted that it makes no attempt to purify its mRNA of “Off-Target” junk.

[31](#)

This figure shows HPLC analysis revealing lower molecular weight fragments emerging from the column ahead of the target pull length Spike Protein coded mRNA.

Pfizer change of buffer from Phosphate to Tromethamine in late 2021 clearly was a desperate attempt to reduce Chemical as well as Thermal degradation of its product for minimum cost as it owns the supplier Hospira outright.



How much of each Ingredient is in the Pfizer Jabs?

It depends on the amount of mRNA. Here is one formulation for the Orange Cap vials, after change of formulation to replace Phosphate buffer with Tromethamine.

The amounts of the four Lipid Nanoparticle molecules per jab is very small, in the microgram range.

13 DESCRIPTION

The Pfizer-BioNTech COVID-19 Vaccine in multiple dose vials with orange caps and labels with orange borders is supplied as a frozen suspension; each vial must be diluted with 1.3 mL of sterile 0.9% Sodium Chloride Injection, USP prior to use to form the vaccine. Each 0.2 mL dose of the Pfizer-BioNTech COVID-19 Vaccine supplied in multiple dose vials with orange caps and labels with orange borders contains 10 mcg of modRNA encoding the viral spike (S) glycoprotein of SARS-CoV-2.

Each 0.2 mL dose of the Pfizer-BioNTech COVID-19 Vaccine supplied in multiple dose vials with orange caps and labels with orange borders also includes the following ingredients: lipids (0.14 mg (4-hydroxybutyl)azanediyil)bis(hexane-6,1-diyl)bis(2-hexyldecanoate), 0.02 mg 2[(polyethylene glycol)-2000]-N,N-ditetradecylacetamide, 0.03 mg 1,2-distearoyl-sn-glycero-3-phosphocholine, and 0.06 mg cholesterol), 10.3 mg sucrose, 0.02 mg tromethamine, and 0.13 mg tromethamine hydrochloride. The diluent (sterile 0.9% Sodium Chloride Injection, USP) contributes 0.9 mg sodium chloride per dose.

The Pfizer-BioNTech COVID-19 Vaccine does not contain preservative. The vial stoppers are not made with natural rubber latex.

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- 16 FOI Document 2389-6 available for free download <https://www.tga.gov.au/resources/publication/publications/documents-released-under-section-11c-freedom-information-act-1982-jul-2021-jun-2022>
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Thanks for the mention, fantastic ongoing work of yours, one of the few Substacks where I constantly learn things on after-effects causes!

LIKE (9) REPLY

SteveFeb 10 Liked by GeoffPainPhD

Great work, thank you Geoff a nice breakdown of all the ingredients. I studied biology many years ago at uni, and have been wary of any mRNA or DNA vector tech since it was first proposed as a "vaccine" for SARS COV 2/Covid... Knowing how essential cellular mRNA translation is for day to day functions in one's body (let alone a possibility of reverse transcription) the prospect of tinkering without full knowledge of the outcome seemed reckless and dangerous from the outset. Your breakdown of the other ingredients further serves to reinforce my decision not to take any of these products.

Given the harms immediately evident, you'd have thought these products would be pulled from market. I personally know a three people who've died within days to three weeks after the shot (I won't go into details, I'll save that for another day, but they are all textbook vaccine deaths, not reported to the TGA), and a number of people vax injured, (many confirmed vax injured by their doctors)... Given my small social circle I doubt many of these are registered with the TGA, and the reports are just the tip of the iceberg.

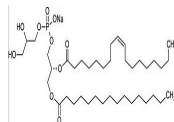
I have only just discovered your substack, I'm looking forward to perusing your other articles!

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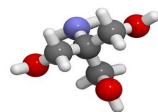
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Tromethamine is a Hazardous Substance in Jabs that Must be Banned

Pfizer added Tromethamine to it jabs without any clinical trials as a replacement for Phosphate buffer used in it original 4 formulations.

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Extreme Toxicity of Endotoxins in Pfizer Jabs

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